

Product Summary

V_{RRM}	I_F	Q_c
1200V	20A	116nC

Feature

- Negligible reverse recovery
- High-speed switching
- Positive Temperature Coefficient
- Temperature-Independent Switching

Applications

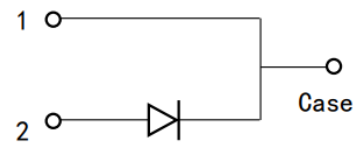
- Switch mode power supply
- Solar inverter
- Data Center
- Uninterruptible power supply

Package

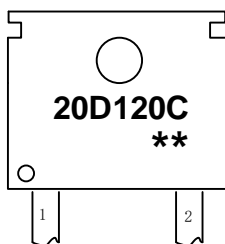


TO-247-2L

Circuit diagram



Marking



20D120 =Device Code
C =SiC product
** =Week Code

**Absolute maximum ratings (T_c=25°C, unless otherwise noted)**

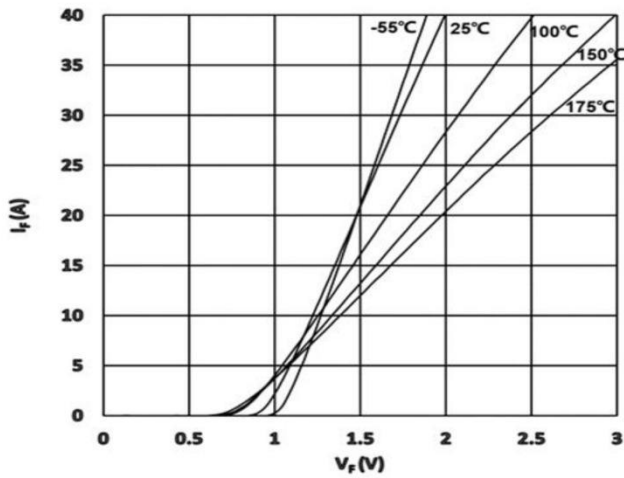
Parameter	Symbol	Rating	Units
Drain-Source Voltage	V _{RRM}	1200	V
Continuous forward current (T _c =25°C)	I _F	44	A
Continuous forward current (T _c =150°C)		20	
Non-repetitive forward surge current	I _{FSM}	170	A
Repetitive Peak Forward Surge Current	I _{FRM}	135	A
i ² t value	∫i ² dt	120	A ² S
Total Power Dissipation(T _c =25°C)	P _D	269	W
Total Power Dissipation(T _c =150°C)		49	
Thermal Resistance Junction-Case ¹	R _{θJC}	0.55	°C/W
Storage Temperature Range	T _{STG}	-55 to 175	°C
Operating Junction Temperature Range	T _J	-55 to 175	°C

Electrical characteristics (T_a=25°C, unless otherwise noted)

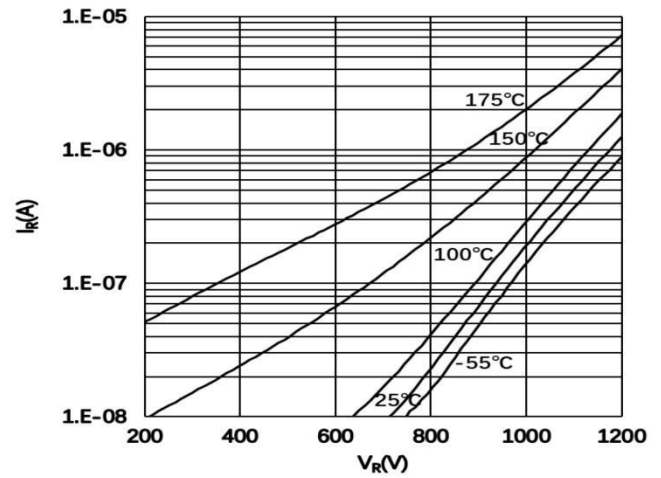
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
DC blocking voltage	V _{DC}		1200	---	---	V
Forward voltage	V _F	I _F =10A	---	1.22	---	V
		I _F =20A, T _c =25°C	---	1.45	1.8	
		I _F =20A, T _c =175°C	---	2.1	3.0	
Reverse current	I _R	V _R =1200V, T _c =25°C	---	2	20	uA
		V _R =1200V, T _c =175°C	---	10	200	
Total capacitive charge	Q _C	V _R =800V	---	116	---	nC
Total capacitance	C	V _R =1V, f=1MHZ	---	1950	---	pF
		V _R =400V, f=1MHZ	---	105	---	
		V _R =800V, f=1MHZ	---	81	---	
Capacitance Stored Energy	E _C	V _R =400V, T _c =25°C	---	4.1	---	uJ



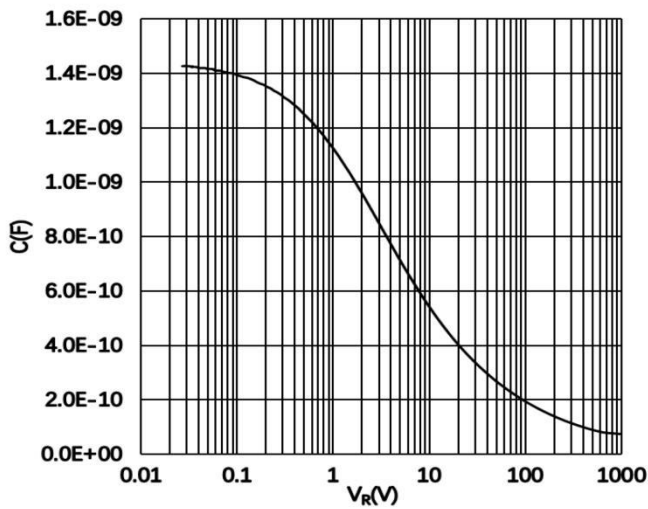
Typical Characteristics



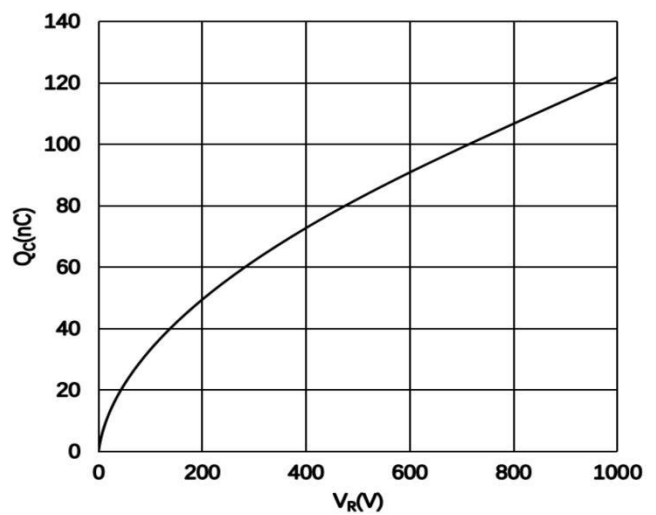
典型正向特性曲线



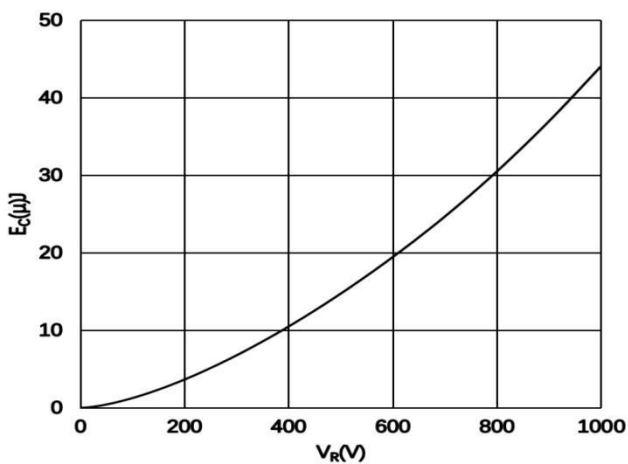
典型反向特性曲线



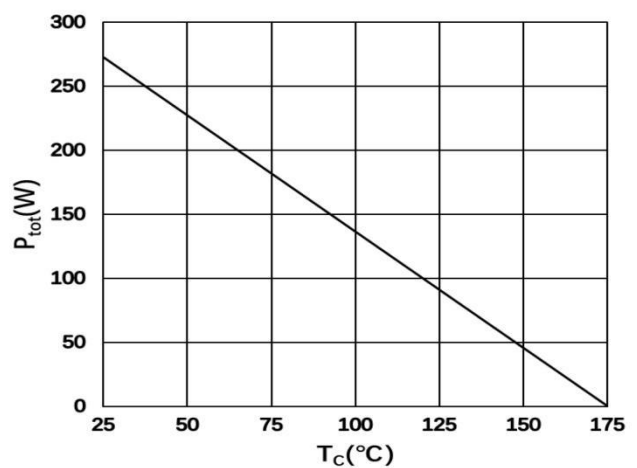
典型电容与反向电压曲线



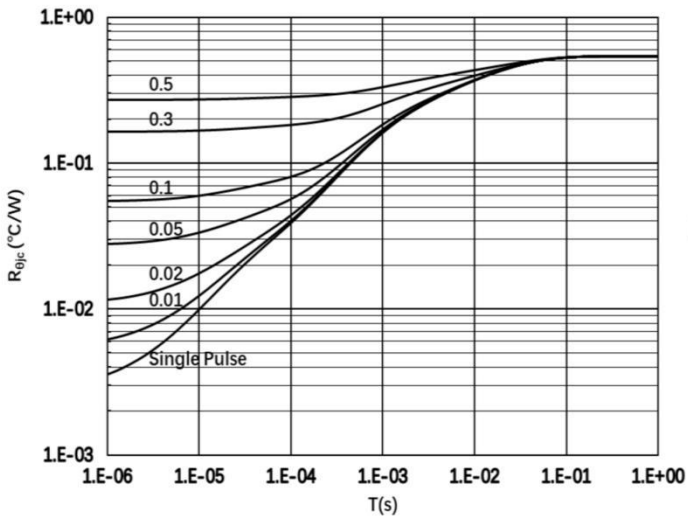
典型存储电荷与反向电压曲线



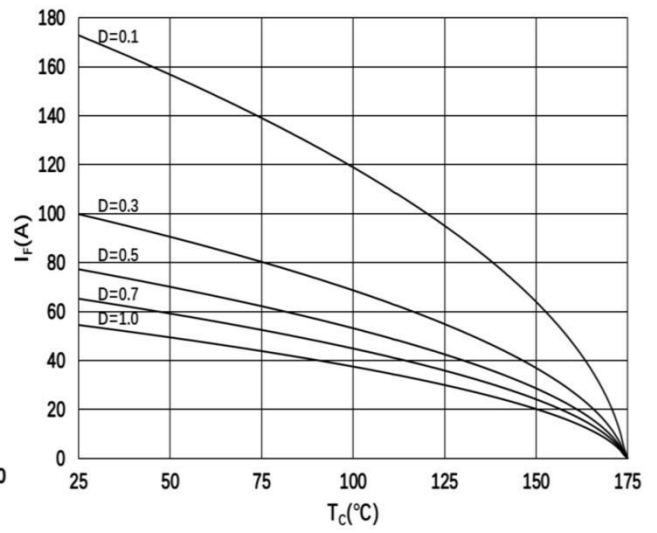
典型电容能量与反向电压曲线



典型功率降额曲线



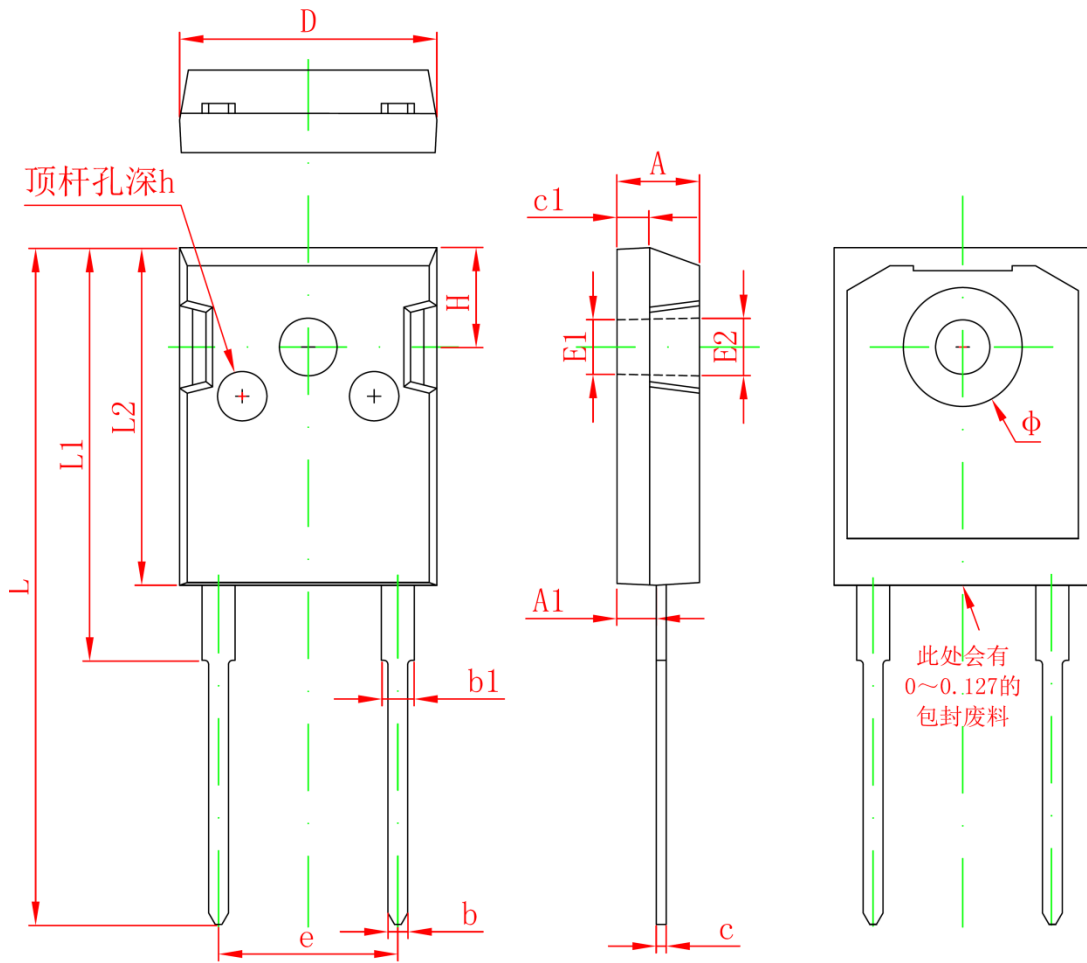
瞬态热阻抗



不同负载下的电流曲线



TO-247-2L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.850	5.150	0.191	0.200
A1	2.200	2.600	0.087	0.102
b	1.000	1.400	0.039	0.055
b1	1.800	2.200	0.071	0.087
c	0.500	0.700	0.020	0.028
c1	1.900	2.100	0.075	0.083
D	15.450	15.750	0.608	0.620
E1	3.500 REF.		0.138 REF.	
E2	3.600 REF.		0.142 REF.	
L	40.900	41.300	1.610	1.626
L1	24.800	25.100	0.976	0.988
L2	20.300	20.600	0.799	0.811
φ	7.100	7.300	0.280	0.287
e	10.900 TYP.		0.429 TYP.	
H	5.980 REF.		0.235 REF.	
h	0.000	0.300	0.000	0.012